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ABSTRACT

A study examined whether the frequent use of advance organizers in the content areas would significantly improve the reading comprehension of junior high school compensatory education students. For ten weeks a group of 16 students was exposed to the continuous use of advance organizers (structured overviews, previewing, questioning, and determining purpose and rate of reading in the different content areas). A control group of 15 students used the same content area materials without the advance organizers. A standardized reading test was used as both a pretest and a posttest. The results showed that advance organizers could significantly improve the reading comprehension of compensatory education students. (FL)

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THE EFFECTS OF ADVANCED ORGANIZERS ON THE READING COMPREHENSION OF COMPENSATORY EDUCATION STUDENTS

BY

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TABLE OF CONTENTS

PAGE

I. ABSTRACT.....i

II. TABLE OF CONTENTS.....ii

III. LIST OF TABLES.....iii

IV. THE EFFECTS OF ADVANCED ORGANIZERS ON THE READING COMPREHENSION OF JUNIOR HIGH SCHOOL COMPENSATORY EDUCATION STUDENTS.....1

Hypothesis.....4

Assumptions and limitations.....4

Definitions.....5

Procedures and Sample.....5

Specific Procedures.....6

Results.....8

Conclusions.....11

V. RELATED LITERATURE.....14

VI. REFERENCES.....23

VII. APPENDIX.....25

LIST OF TABLES

PAGE

TABLE

I. THE RESULTS OF THE NELSON READING SUB-TEST IN OCTOBER 11

II. THE RESULTS OF THE NELSON READING SUB-TEST IN MID-JANUARY 13

III. THE TEST SCORES OF THE CONTROL AND EXPERIMENTAL GROUPS IN OCTOBER 11

IV. THE TEST SCORES OF THE CONTROL AND EXPERIMENTAL GROUPS IN MID-JANUARY 13

THE EFFECTS OF ADVANCED ORGANIZERS ON THE READING COMPREHENSION OF JUNIOR HIGH SCHOOL COMPENSATORY EDUCATION STUDENTS

According to the results of the California Test of Achievement, the seventh and eight grade students at this particular school scored among the lowest in reading achievement in the state. As a consequence, more reading teachers have been hired, but the main focus is upon teaching reading in the content areas. Some of the content area teachers, however, feel threatened by this new responsibility thrust upon them and view this as an additional instructional burden. Over one half of the students are in compensatory education, presenting more complex problems. In response to the content area teachers' needs, instructional strategies that can be utilized successfully in all content area subjects have been examined.

Artley (1968) maintains that teachers are fearful of new innovations and do not view reading as an integral part of the teaching process - a way to teach rather than something to teach. Studies have shown that, along with preliminary planning by the

teacher, the use of advanced organizers is a highly effective teaching strategy.

Herber (1972) suggested that guiding students through oral instruction and through written materials helps them perceive the content in the text and the process by which the content is perceived. High level comprehension skills, as well as, organizational skills can be taught efficiently in this manner.

Teacher questions are effective in building a framework for comprehension. Guzak (1967) examined the importance of teacher questioning syles and found that 70 percent of the questions asked were recall questions. The children appear to expect such questions and answered them correctly on the first attempt 90 percent of the time. Teachers have an obligation to improve student comprehension on three levels - literal, interpretive and applied.

H. Y. McCluskey (1934) conducted a study of the influence of preliminary skimming, or previewing, on reading and found that the

group trained in this procedure read 24 percent faster and as accurately as the students who read in the usual manner. This quick overview gives a partial knowledge of what is to come and thus speeds up the rate of comprehension.

Holmes (1931), Washburne (1929) proved the value of previous questions in two different experiments. Students had superior comprehension and retention when given questions prior to reading or as they read. They had a basis for selecting and organizing the ideas that were presented. This type of advanced organizer gives the most effective mental set, according to Robinson (1941), for retaining the important facts and generalizations.

Thomas and Robinson (1972) believe teachers can upgrade students comprehension by making assignments properly, by assisting students in mastering a textbook chapter, and by helping them formulate purposeful questions.

Brennan (1972) and H. A. Robinson (1978) assert that the preparation of students for learning is an obligation of all teachers.

HYPOTHESIS

Based on the above, it would seem that a program of instruction that utilized advanced organizers would be of excellent value to students and to content area teachers. To determine the efficiency such a program will have with low achieving students, this study was undertaken. It was hypothesized that frequent use of advanced organizers in the content areas will significantly improve reading comprehension of junior high school compensatory education students.

ASSUMPTIONS

The two groups of students are equivalent because they come from the same socio-economic background. The two groups are equal in intelligence, ability and maturity.

LIMITATIONS

1. Only 31 students will be involved in the experiment.
2. The study will be conducted for only ten weeks, excluding school holidays.
3. Poor student attendance may reflect negatively on the study.

DEFINITIONS

Advanced Organizer - Pre-reading strategies that prepare the students for reading a selection or guide them as they read.

Structural Overview - A visual map that permits students to see the relatedness of important concepts in a unit or specific reading assignment.

Remedial Reader - (as defined by this district) Any student who reads two or more years below grade level.

Instructional Procedures and Sample

All students were placed in classes according to their California Achievement Test scores. Each class consisted of both seventh and eighth graders. For the purpose of this research, the students were pretested with the Nelson Test, FORM A. They

were also given the Prescriptive Reading Inventory to yield a grade equivalent score for each student and a record of their strengths and weaknesses in reading skills. There were 16 students in the experimental group and fifteen in the control group.

Each group was exposed to four, forty-minute periods of instruction per week. Differentiated content area material and related supplementary materials were used with both groups; however, special activities involving the use of advanced organizers were presented to the experimental group.

Finally, another equivalent form of the Nelson Reading Test was administered as a post-test to determine if any significant gains were made. A "t" test of the significance of the difference, between the means of the two groups was used to test the hypothesis of the study.

Specific Procedures

Students in the experimental group were given specific instructions in previewing, formulating questions, setting reading

purposes and the rate of reading. Advanced organizers, such as the structural overview, stressed the concepts and vocabulary to be learned in the section.

Initially, the EDL, Controlled Reader Guides were used to acquaint students with the techniques of previewing and establishing a purpose for reading.

The textbook, The Content Reading Skills, by Mable O'Donnell and J. Louis Cooper, gave more practice in the use of advanced organizers as well as opportunity for skill development in each content area. The science unit was about space and the solar system. The social studies unit centered around famous people and their achievements. Literary works selected by students were used as supplements.

In each lesson students were instructed to study the vocabulary, preview the selection, formulate questions and/or examine the questions at the end of the story to establish a purpose for reading and to determine the rate the material should

be read. They practiced turning statements or subheads into questions. The vocabulary in each lesson was used to build the main concepts and to connect the students' previous experiences with the unit being studied.

The control group used the same materials without the advanced organizers.

Results

In mid-October, two groups of students, a control sample and an experimental sample, were administered the Nelson Reading Test, Form A, to determine if the groups were of equal ability.

The results are shown in Table I. From the raw scores of the standardized test, the mean score of each group was computed.

TABLE I

The Results of the Nelson Reading Comprehension Sub-Test in October

Groups	Means	Standard Deviations	T-Score
Control	57.2	12.2	.66
Experimental	60.	11.5	(Insignificant)

The control group had a mean score of 57.2 with a standard deviation of 12.2; the experimental group's mean score was 60 with a standard deviation of 11.5. The result of a t-test was .66 indicating that there was no significant difference between the reading abilities of the two groups at the beginning of the experiement.

In mid-January following 10 weeks of instruction as outlined above, Form B of the Nelson Reading Test was given to both groups and, again, the means of each group was computed and a t-test was

was made to determine if the instructional strategy, the experimental variable, had any impact upon the learning of the experimental group.

The results, as illustrated in Table II, show that the control group mean score was 59.7 and the standard deviation was 11.4

TABLE II

The Results of the Nelson Reading Comprehension Sub-Test in mid-January

Group	Mean	Standard Deviation	T-Score
Control	59.7	11.4	2.51
Experimental	70.4	12.3	Significant at .05 level

The experimental group mean was 70.4 with a standard deviation of 12.3. The use of a two-tailed test with 14 degrees of freedom resulted in a t-value of 2.51 which is significant at .05 level.

The conclusions obtained in this analysis reject the null hypothesis that the use of advanced organizers would not be effective in improving the reading comprehension of junior high school compensatory education students in various content areas. The difference between the achievement of the experimental and control groups, as measured by the mean test scores, indicated that the difference is too great to attribute to sampling error; therefore, the use of advanced organizers probably accounted for the improved performance of the experimental group. The results suggest that advanced organizers, as defined and used in this experiment, are of educational value in improving comprehension as measured by the Nelson Reading Test and can be adopted as an educational tool in the content areas.

CONCLUSIONS

Previous research has already proved that the use of advanced organizers is effective as an instructional technique with various other student populations. The results of this study has provided

support for the hypothesis that the reading comprehension of remedial readers can also benefit from this method of teaching. These junior high school students had established poor reading habits that were extremely difficult to change in a limited time; however, the marked improvement of their interim test scores was a stimulant for them. Prereading strategies provided a framework for the intertwining of previous experiences and new learning. The students appeared to have greater motivation for reading when there was a purpose. They were becoming more independent in establishing a purpose and determining their rate of reading by previewing a lesson before reading. The use of a structured overview provided them with better understanding of the vocabulary and the main concepts in each content area lesson; thereby sharpening their reading skills as well as their comprehension.

Through the use of advanced organizers they have learned to organize their materials more effectively and thereby retain more information. Some experts (Rickard) have found that those who

score low on tests of verbal ability benefit disproportionately more from advanced organizers and high-level questions than those who score high on such tests.

The implications are that the poor reader should not be subjected to busywork, copying or rote learning. In every content area subject, each teacher has an obligation to provide ample opportunity for each child to learn. Through high-level questioning and careful guidance through written materials, students can gain high-level comprehension and organizational skills. Advanced organizers have proved to be highly effective in improving comprehension of low achieving junion high school students in compensatory education.

ADVANCED ORGANIZERS: RELATED LITERATURE

There is a substantial amount of data supporting the theory of teaching reading in the content area and the use of pre-reading strategies. Artley (1968) maintains that teachers are fearful of new innovations and do not view reading as an integral part of the teaching process - way to teach rather than something to teach. Studies have shown that, along with preliminary planning by the teacher, the use of advanced organizers is a highly effective teaching strategy.

Herber (1972) suggested that guiding students through oral instruction and through written materials helps them perceive the content in the text and the process by which the content is perceived.

Thomas and Robinson (1972) believe teachers can upgrade students comprehension by making assignments properly by assisting students in mastering a textbook chapter, and by helping them formulate purposeful questions.

Brennan (1972) and H. A. Robinson (1978) assert that the preparation of students for learning is an obligation of all teachers. Prereading strategies are all important reading skills which can dissolve many anticipated problems because students are prepared for an assignment.

H. Y. McCluskey (1934) conducted a study of the influence of preliminary skimming, or previewing, on reading and found that the group trained in this procedure read 24 percent faster and as accurately as the students who read in the usual manner. This quick overview gives a partial knowledge of what is to come and thus speeds up the rate of comprehension.

Poor readers' inadequate comprehension may be attributed to many factors. Weiner and Cromer (1967) suggested that some difficulties in reading comprehension can be caused by a mismatch between the readers' typical patterns of linguistic organization and the organizational patterns required for comprehension of the particular written material. Comprehension is also obstructed because

they do not organize what they read into semantically meaningful units.

Cromer (1970) contends that the comprehension of poor readers may be attributed to the manner in which they organize the information presented to them in written material. Peters' (1975) study showed the positive effect that organization of material may have upon comprehension. Using a model where concepts were systematically presented according to specific guidelines, as opposed to the textbook, or historical approach, his study indicated that well-organized material is beneficial to both good and poor readers. Gagne and Weigand's (1970) study supported the theory that the context in which ideas were presented to a learner had a significant facilitative effect on retention. He found that the use of a topic sentence to introduce superordinate context was superior in retention to the coordinate context, or related ideas, and unrelated contexts. Ausubel (1960) developed a strategy for enhancing meaningful learning of connected discourse. Conceptually

superordinate declarative statements, an advanced organizer, containing approximately 250 to 300 words, was placed prior to a related subordinate passage of material, about 2,000 words in length. The reader subsumes, or "chunks" subordinate passage material under related high level superordinate materials. The purpose of the advanced organizer was to provide a framework for new material.

Rickards (1975) contends that Asubel's presentation was too cumbersome and unwieldy for a reader to process because of its length. In his study, however, he also used advanced organizing declarative statements, superordinate concepts, but they consisted only of 10 to 12 words and were interspersed adjacent to the material to which it was related. The results of this experiment indicated that this method was effective in producing meaningful learning and retention. He concurred with Ausubel's hierarchial arrangement of information because it provides readers with a systematic retrieval plan, thereby facilitating retention.

Interspersed advanced organizer yielded greater amount of passage recall than either interspersed post organizers or interspersed coordinated prestatements or post statements. He found that post organizers were of little, if any, benefit.

Advanced organizers served as semantic or contextual cues or provided semantic "Chunking" whereby text sentences became interrelated or organized. Instructionally, this will be helpful to disabled readers.

Graber, Means, Johnsten (1972) made a two-fold study: In addition to determining the effect of advanced and post organizers on student achievement, an attempt was made to identify any intervening variables that might confound the effect of either organizer. It was proposed that the student's internal ability to organize learning material interacts with any external administered organizer. The results of their study were contradictory to the findings of Ausubel and his hypothesis regarding treatment and organizing ability. There were no significant differences between students who used

advanced organizers, post organizers or nonorganizers. No significant interaction effect was determined. The study proved that students with good organizing ability scored higher than other students.

Reading for a purpose is highly recommended by many experts. Smith (1966) investigated a group of ninth grade students' ability to identify appropriate reading purpose from the nature of the content, to comprehend the material, and adjust their reading in the light of the reading purpose. Over a period of a year, an experimental group of students were instructed for various purposes in English classes. Twelve specific purposes were identified for instruction, and special instructional materials were prepared for the experimental group, while, in the control group no direct instruction was given in reading for different purposes except incidentally by the teacher. Students in the experimental classes were better able to identify appropriate purposes for reading, to read significantly better for the purposes studied and to comprehend on a higher level than students in the control classes.

Smith concluded that well-planned assignemnts should be made in which students either are given reading purposes or are given direct instruction in setting their own purposes.

Bond (1941), Thomas and Robinson (1972) also stress the importance of teaching students to read for a purpose. Refining a technique for varying purposes and meeting varying degrees of difficulty are beneficial aids to better comprehension.

Estes and Vaughan (1978) believe that lessons in the content area afford excellent opportunities for students to learn about the reading process. The three integral components involved in the process are known as prereading anticipation, information search and reflective reaction. The prereading anticipation component is designed to help students become aware of previous knowledge they may have in their cognitive structure relative to what they are about to read. Thus associating new material with prior knowledge will be maximized. Prereading strategies consist of (1) advanced organizers, (2) structured overview, a teacher-student activity designed to aid students organize their cognitive

structure relative to new material, (3) inspectional reading, a means of establishing purpose by skimming through topics, illustrations, headings, introductory and final paragraphs and questions for a frame of reference and to heighten anticipation for more careful reading, (4) the request technique (Manzo, 1969), a procedure for getting readers to question before they read and to base their purpose for reading on questions, and (5) the use of questions. All these components build a mind set for reading.

Teacher questions are effective in building a frame work for comprehension. Guzak (1967) examined the importance of teacher question styles and found that 70 percent of the questions asked were recall questions expected by the children who answered them correctly on the first attempt 90 percent of the time. Teachers have an obligation to improve student comprehension on three levels - literal, interpretive and applied.

Holmes (1931), Washburne (1929) proved the value of previous questions in two different experiments. Students had superior

comprehension and retention when given questions prior to reading or as they read. They had a basis for selecting and organizing the ideas that were presented. This type of advanced organizer gives the most effective mental set, according to Robinson (1941), for retaining the important facts and generalizations.

These students and other data give evidence that prereading strategies will help improve the comprehension of disable readers.

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APPENDIX A

TABLE III

The Raw Test Scores of the Control and Experimental Groups in October.

The Experimental Group	The Control Group
62	52
67	58
78	60
76	65
42	60
62	56
70	47
44	44
50	52
58	94
75	56
50	60
61	46
63	63
44	45
58	

APPENDIX B

TABLE IV

The Raw Test Scores of the Control and Experimental Groups in Mid-January

The Experimental Group	The Control Group
72	63
74	68
76	80
94	62
48	76
60	48
77	47
61	47
74	58
70	85
89	52
48	58
70	47
65	57
76	48
72	